



# Strategic Marine Alliance for Research & Training (SMART): Existing Training Opportunities and Future Skills Needs.

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SMARTSkills Postgraduate Workshop  
24<sup>th</sup> October 2013

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Galway-Mayo Institute of Technology

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The Strategic Marine Alliance for Research and Training is funded collaboratively through the following Partner Institutions.



Ship-time is funded under the Sea Change strategy with the support of the Marine Institute and the Marine Research Sub-programme of the National Development Plan 2007–2013.

# National Research Vessel-based Training in Ireland

- Student training on RVs since 1986.
- 2011 SMART led and funded by partner HEIs.
- Collaborative pool of diverse HEIs with different institutional strengths, facilities and infrastructure.
- Coordinated use of national infrastructure
- Standardised, efficient and effective training.
- Integrated delivery of tailored accredited offshore training for students.
- Creation of new skills and expertise of direct benefit to students, science and industry.



# SMART Mission and Strategy

Collaborative framework combining strengths of partner institutions in the promotion of existing and new research vessel-based training activities..



## *Developing National Capacity*

- Undergraduate Training
- Bespoke Postgraduate courses
- CPD courses



## *International Collaboration*

- Eurofleets (MI)
- AWI Partnership
- Erasmus (GMIT)



## *Strategic Research Supports*

- Postgrad Workshops
- Collaborative MSc
- Marine Grad Prog
- Research Consortia

# Developing National Capacity 2013

Courses 2013		Partners	Courses	Student numbers	Days
UG	Science@Sea CPD	All	3	36	6
UG	Accredited Common Module	NUIG, UCC , UU, GMIT	7	84	14
PG	SmartOcean Moorings & Sensors	DCU, NUIG, SmartBay	1	10	2
PG	MSc Marine Biology	UCC	2	20	2
PG	Observer programme (AMBS)	GMIT	2	20	4
PG	MEng Renewable Ocean Energy	UCC, CIT	4	40	2
PG	MSc Exploration Geology	UCC, Infomar	2	24	4
PG	MEng Energy & Communications	AIT	4	40	8
			25	274	40

# Science@Sea CPD Courses

Aim: Cross-disciplinary skills necessary to conduct multidisciplinary offshore research.

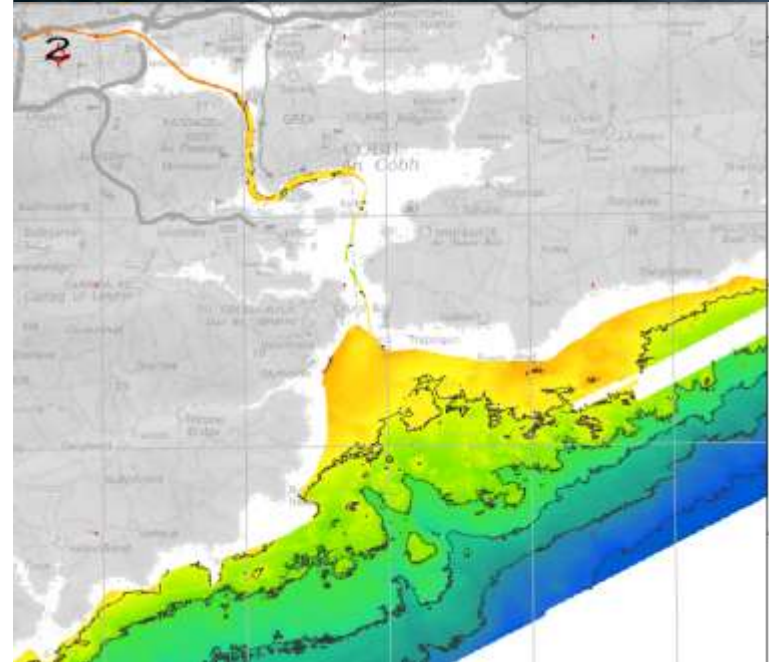
Target: Undergraduates, Postgraduates & Professionals.

Content: Multidisciplinary marine science covering oceanography, fisheries, benthic, geosciences

- Sample collection and processing
- Operation of equipment & instrumentation
- Data acquisition and basic processing
- Data integration
- Survey design and planning

Accredited: IMAREST recognised CPD

Delivery: Spring



# Observer Programme: Applied Marine Biological Sampling & Data Collection (AMBS) Module

**Aim:** Skills required to design sampling campaigns and collect samples and data at sea as observers/MMOs.

**Target:** Postgraduates & professionals.

**Content:** Impacts of commercial fisheries, catch, bycatch, fisheries and benthic discards, marine mammal ID & surveying, seabird surveying, plankton ecology & PAM.

**Accredited:** 5 ECTS at level 9

**Teaching:** 120 hours (40 contact, 80 online)

**Days at Sea:** 2 days CV, 2 days Celtic Mist for



# Multidisciplinary Offshore Operations in Marine Science: A Common Blended Learning Module

**Aim:** Skills required to design & conduct multidisciplinary marine science research survey.

**Target:** Undergraduate students

**Content:** Multidisciplinary covering oceanography, geosciences, fisheries biology and benthic.

**Accredited:** 5 ECTS at level 8

**Teaching:** 120 hours (labs, lectures, ship based)

**Delivery:** Spring and Winter

**Days at Sea:** 14 days

**Students:** 84 students





# Moorings, Sensors & Sensor Platforms

Aim: Skills involved in the operation, deployment and maintenance of sensors , sensor platforms and autonomous marine monitoring systems

Target: SmartOcean Graduate Prog. IRCSET PhDs

Content: Biological, chemical, acoustic and visual sensing, biofouling, communications and telemetry, calibration and data validation. Site assessment, determination of local hydrographic conditions deployment and recovery

Delivery: Pilot March 2013 for 10 students over 2 days

Accreditation: Pilot. SmartBay prog in development.



NUI Galway  
OÉ Gaillimh



# Practical Offshore Geological Exploration

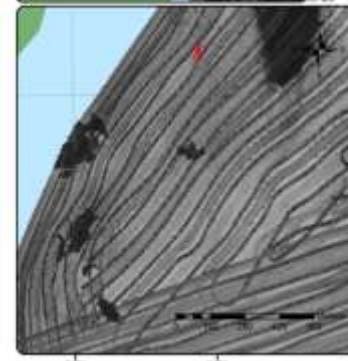
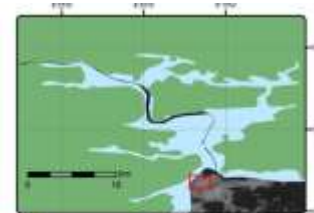
Aim: Practical skills and expertise in mapping and appraising the seabed and sub-seabed geology.

Target: UCC MSc Exploration Field Geology

Content: Seabed mapping techniques and practice; sediment sampling techniques; sub-seabed imaging; offshore survey planning; offshore geological data collection, evaluation and resource assessment.

Days at Sea: 4 days (20 students)

Accreditation: 5 ECTS at Level 9



#### **Station 6 Outside Roches Pt:**

- Weak reflectivity
- Brown well sorted fine sand
- Polychaetes – 2 species
- Amphipods
- Cumaceans

# Ocean Energy

Aim: Skills required to analyse hydrodynamics & morphodynamics of coastal systems.

Target: Postgraduates (UCC: MEng Sustainable Energy ; AIT: MEng Energy & Communications Infrastructure)

Content: Site assessment, deployment, seabed mapping, geotechnical investigations, Environmental Assessments, Hydrodynamics, legislation, planning, licensing, data collection and analysis techniques.

Days at Sea: 40 students over 2 days.



## Training Through Research Surveys (TTRS)

- Opportunities for graduate and postgraduate marine scientists to learn alongside experienced scientific crew on research surveys
- Opportunities to collect samples & data for research
- Network and make contacts

	Courses 2013	HEI	Student numbers	Days
CE13001	Oceanography Rockall Transect	Marine Institute	2	15
CE13004	Mackerel Egg & Larval Survey	Marine Institute	2	24
CE13003	Celtic sea Geotechnical	UCC	2	6
CE13006	Transatlantic Transects (x2)	Marine Institute	1	18
	North West Herring Acoustic	Marine Institute	1	10
	Ground Fish Survey	Marine Institute	3	30
			11	113

<http://www.smartseaschool.com/TTRS>



- Assistant coordinators of Training & Education WP Eurofleets I & 2.
- Aug 2010 Ireland: 20 PhD students from 6 countries over (6 days) onboard RV Celtic Voyager.
- July 2011 Estonia: Collaborated with TUT on RV Salme Oceanography course for 11 students from 9 countries (5 days).
- Establishing technician training in Norway with Kongsberg





1. Preparatory workshops in advance of regional calls
2. On-board training courses
3. Floating university
4. EUROFLEETS access program
  - Spare berth schemes,
  - 'Co-Chief Scientist' program
  - Teachers at Sea programme
5. Technician training on:
  - Specific equipment and
  - Specialist polar training with University of Arctic



# Supports for Marine Postgraduates 2014

- SMARTSkills 2014?
- Eurofleets II activities
- 2014 Offshore Training Courses:
  - SMART/AWI Floating University
  - Operational Oceanography
  - AMBS programme
  - Science@Sea
- TTRS Opportunities incl. transatlantic
- Collaborative Marine MSc
- Marine Graduate Programme
- Collaborative partnerships



**SMARTSkills**  
POSTGRADUATE WORKSHOP  
Funding Opportunities & Data Access  
Thursday 24th – Friday 25th October 2013  
Marine Institute, Oranmore, Galway

**2013**

Knowledge Networking Researchers  
Fellowship Formatting Mundus  
Marie Strategic  
SmartSkills Experience Opportunities Proposal  
Employment Metadata Mobility Under  
Internog Institute Erasmus Library  
Information Marine Training IOC NUI  
Eurasia Horizon Marine Training ICE5 Sessions  
Seabed GMT Technology Archiving UCC  
Jobs Bootcamp Actions GIS LUJ  
NEIG Biological Actions HCA Mayo  
Life Career Alliance Data Quality  
SMART Career Alliance University Travel Grants  
Hydrography Geography EMDCivil Ocean  
Cartography Europe Research Databases Spatial  
Mapping Funding Galway Vessels  
Environmental Doctorate Workshop  
SeaDataNet Infrastructure Oceanography

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SMART Skills 2013

UCC



## SMART on Social Media

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Thank You.